CURRENTLY PENDING CLAIMS

3. The method of claim 20, wherein said DNA is non-genomic DNA.

4. The method of claim 20, wherein said DNA is cDNA.

20. A method of subjecting a DNA molecule to a DNA synthesis reaction, the DNA molecule having a first linker sequence positioned at one end of the DNA molecule and a second linker sequence, different from said first linker sequence, positioned at the other end of the DNA molecule, wherein said DNA is subjected to a DNA synthesis reaction with a primer set comprising:

a) a first primer, wherein the 5' sequence of said primer is complementary to said first linker sequence and the 3' sequence of said primer comprises a specificity region;

b) a second primer, wherein the 5' sequence of said primer is complementary to said second linker sequence and the 3' sequence of said primer comprises a specificity region.

21. The method of claim 85, wherein said amplification is performed with an array of combinations of alternate amplification primers.

23. The method of claim 85, further comprising, identifying the amplified DNA.

24. The method of claim 23, wherein said identification is based upon length.

25. The method of claim 23, wherein said identification is performed by a computer program.

26. The method of claim 21, wherein said array of amplifications is performed in a multi-well plate.

27. The method of claim 20, wherein the specificity region of the primers of the first primer set is 3,4,5,6,7 or 8 base pairs long.

28. The method of claim 20, wherein the specificity region of the primers of the second primer set is 3,4,5,6,7 or 8 base pairs long.

29. The method of claim 85, wherein said amplification comprises polymerase chain reaction, nucleic acid sequence based amplification, transcription mediated amplification, strand displacement amplification or ligase chain reaction.

36. The method of claim 85, wherein a label is incorporated into said amplified DNA.

37. The method of claim 36, wherein said label is incorporated by means of a labeled primer.

38. The method of claim 36, further comprising, partial nucleotide sequence identification of the amplified products by the identity of the label.

39. The method of claim 36, wherein said label is a chromophore.

40. The method of claim 36, wherein said label is a fluorophore.

41. The method of claim 36, wherein said label is an affinity label.

42. The method of claim 36, wherein said label is a dye.

43. The method of claim 37, wherein the 5' end of said primer comprises an amino moiety and a flurophore is covalently attached by the reaction of a succinimido ester of the flurophore to the 5' amino-modified primer.

44. The method of claim 40, wherein said fluorophore is Alexa 350, Alexa 430, AMCA, BODIPY 630/650, BODIPY 650/665, BODIPY-FL, BODIPY-R6G, BODIPY-TMR, BODIPY-TRX, Cascade Blue, Cy2, Cy3, Cy5,6-FAM, Fluorescein, HEX, 6-JOE, Oregon Green 488, Oregon Green 500, Oregon Green 514, Pacific Blue, REG, Rhodamine Green, Rhodamine Red, ROX, TAMRA, TET, Tetramethylrhodamine, and Texas Red.

45. The method of claim 20, wherein the products of said DNA synthesis reaction are analyzed.

46. The method of claim 45, wherein said analysis of products is by polyacrylamide gel electrophoresis.

47. The method of claim 45,wherein said analysis of products is by capillary gel electrophoresis.

48. The method of claim 45, wherein said analysis of products is by mass spectrophotometry.

49. The method of claim 45, wherein said analysis of products is by energy transfer.

50. The method of claim, 45, wherein said analysis of products is by the BioStar technology.

51. The method of claim 45, wherein said analysis of products is by the Luminex technology.

52. The method of claim 45, wherein said analysis of products comprises quantifying amplification products.

53. The method of claim 52, wherein said quantifying is by measuring the ratio of each product to a co-amplified reference-gene.

54. The method of claim 52, wherein said quantifying is by measuring the ratio of each product to a panel of reference-genes.

55. The method of claim 52, wherein said analysis of products is by Real-Time PCR.

56. The method of claim 45, wherein said analysis of products is performed in a multi-well plate.

57. The method of claim 45, wherein said analysis of products is performed on a membrane.

58. The method of claim 45, wherein said analysis of products is performed on a solid matrice.

59. The method of claim 58, wherein said solid matrice is a DNA chip.

60. The method of claim 20, performed on DNA derived from a normal cell or tissue and on DNA derived from a different cell or tissue.

61. The method of claim 20, performed on DNA derived from a normal cell or tissue and on DNA derived from a cancerous cell or tissue.

62. The method of claim 20, performed on DNA derived from a normal cell or tissue and on DNA derived from a cell or tissue treated with a pharmaceutical compound.

63. The method of claim 20, performed on DNA derived from a normal cell or tissue and on DNA derived from a cell or tissue treated with a teratogenic compound.

64. The method of claim 20, performed on DNA derived from a normal cell or tissue and on DNA derived from a cell or tissue treated with a carcinogenic compound.

65. The method of claim 20, performed on DNA derived from a normal cell or tissue and on DNA derived from a cell or tissue treated with a toxic compound.

66. The method of claim 20, performed on DNA derived from a normal cell or tissue and on DNA derived from a cell or tissue treated with a biological response modifier.

67. The method of claim 20, performed on DNA derived from a normal cell or tissue and on DNA derived from a cell or tissue treated with a hormone, a hormone agonist or a hormone antagonist.

68. The method of claim 20, performed on DNA derived from a normal cell or tissue and on DNA derived from a cell or tissue treated with a cytokine.

69. The method of claim 20, performed on DNA derived from a normal cell or tissue and on DNA derived from a cell or tissue treated with a growth factor.

70. The method of claim 20, performed on DNA derived from a normal cell or tissue and on the DNA derived from a cell or tissue treated with the ligand of a known biological receptor.

71. The method of claim 20, performed on DNA derived from a cell or tissue type obtained from a different species.

72. The method of claim 20, performed on DNA derived from a cell or tissue type obtained from a different organism.

73. The method of claim 20, performed on DNA derived from a cell or tissue at different stages of development.

74. The method of claim 20, performed on DNA derived from a normal cell or tissue and on the DNA derived from a cell or tissue that is diseased.

75. The method of claim 20, performed on DNA derived from a cell or tissue cultured in vitro under different conditions.

76. The method of claim 20, performed on the DNA derived from a cell or tissue from two organisms of the same species with a known genetic difference.

85. The method of claim 20, wherein the first and second primers are employed to amplify the DNA molecule.

86. The method of claim 20, wherein the first and second primers are employed to sequence the DNA molecule.

87. A primer molecule having a 5' sequence for annealing to a linker sequence and a 3' terminal specificity region of from 3 to 8 nucleotides in length, the specificity region defined as one of all possible sequence combinations of A, T, G and C.

88. A population of primer molecules, the primer molecules having a 5' sequence for annealing to a linker sequence and a 3' terminal specificity region of from 3 to 8 nucleotides in length, the population of primer molecules having specificity regions collectively reflecting all possible sequence combinations of A, T, G and C.

89. A primer molecule selected from the population of claim 88.